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EXAMINER

JOHNSON, KEVIN M

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The 35 U.S.C 112, second paragraph rejection of claims 1-13 due to the presence of the ambiguous term "fluorescence-type phosphor" in the Final Rejection dated 11/25/2009 is maintained.

### ***Claim Rejections - 35 USC § 103***

2. The rejection of claims 1, 4-7 and 9 under 35 U.S.C. 103(a) as being unpatentable over Oshio et al. (US 6096243) in view of Morihito et al. (JP 2000-144129) in the Final Rejection dated 11/25/2009 is maintained.

3. The rejection of claims 2, 3, 8 and 10-13 under 35 U.S.C. 103(a) as being unpatentable over Oshio and Morihito further in view of Bouchard et al. (US 3753759) in the Final Rejection dated 11/25/2009 is maintained.

### ***Response to Arguments***

4. Applicant's arguments, see page 7, filed 5/28/2010, with respect to the rejection of claim 11 under 35 U.S.C. 112 second paragraph due to the use of conflicting terms "phosphorescence type" and "fluorescence-type" have been fully considered and are persuasive. The rejection of claim 11 has been withdrawn in light of the amendment to the claim submitted 5/28/2010.

5. Applicant's arguments filed 5/28/2010 have been fully considered but they are not persuasive.

The argument that the claims do particularly point out and distinctly claim what applicants regard as their invention because fluorescence is well defined in the art is not

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persuasive. The rejection is not predicated on confusion over the definition of fluorescence as a term or phenomena, but as to what "fluorescence-type phosphor" is intended to require. The use of the term "phosphor" implies that the material exhibits phosphorescence, but in the instant claims applicant has attempted to limit the material based on fluorescence. This inconsistency has introduced uncertainty in to the claim language, as it is not clear what material limitations "fluorescence-type phosphor" is intended to convey. Based on the original claim language that referred to the material as a phosphor, the claims have been interpreted as requiring that the material exhibit some degree of phosphorescence. The addition of the "fluorescence-type" limitation in the amendment to the claims submitted 7/9/2009 rendered the claims indefinite by introducing a limitation that appeared to be in conflict with prior claim limitations. The discussion of the definition of "fluorescence" has not overcome the 112 second paragraph rejection based on the "fluorescence-type" limitation of the phosphor material in the instant claims.

The argument that Morihito teaches away from the material required by the instant claims is not persuasive. It is agreed that Morihito discloses a list of a number of coactivating materials. However, this alone does not indicate that Morihito teaches away from material disclosed by the instant claims. Morihito discloses that the use of the listed coactivators in europium activated materials that contain aluminum and one or more of Mg, Ca, Sr and Ba (abstract). Morihito discloses 5 of the 8 possible (e) elements as possible coactivators (abstract), not 3 as asserted by applicant. Morihito discloses an exemplary embodiment of the material that utilizes Nb as a coactivator. It

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is recognized that the material that contains Nb does not contain Mg and Ba or Sr as required by the instant claim. However, this does not indicate that the disclosure of Morihito teaches away from the material disclosed by the instant claims, as teaching away in the manner asserted by applicant would require some disclosure that Nb was less effective for other phosphorescent materials. It would have been reasonable for one of ordinary skill in the art at the time of the invention to select Nb for use as a coactivator in a material meeting the requirements of the instant claims based on the lack of disclosure in Morihito indicating that it would not be useful as a coactivator in such a material and the disclosure in Morihito of an exemplary embodiment that actually selected Nb as a coactivator from the general list of possible coactivators (claim 3).

The argument that the increased durability associated with the material required by the instant claims would not be present in a material based on the disclosures of Oshio and Morihito is not persuasive. Morihito teaches that the coactivator is included for the purpose of increasing luminance and producing a material "capable of resisting to outdoor employment for a long period." Morihito does therefore suggest that an increase in durability will result from the inclusion of a coactivator, and even if there was no suggestion this property would be expected to be present because the material disclosed by Oshio and Morihito meets all the compositional requirements of the instant claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEVIN M. JOHNSON whose telephone number is

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(571)270-3584. The examiner can normally be reached on Monday-Friday 9:00 AM to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Mayes can be reached on 571-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin M Johnson/  
Examiner, Art Unit 1793

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Primary Examiner, Art Unit 1793